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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,693	09/29/2003	Steve Zhihua Zeng	1459-0300620	4166

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EXAMINER
WANG, JIN CHENG

ART UNIT	PAPER NUMBER
2628	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/21/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

PTOL-90A (Rev. 10/06)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _22 January 2007_.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
   closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _10 and 12-20_ is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _10 and 12-20_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
      application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

Response to Amendments

Applicant's submission filed on 1/22/2007 has been entered. Claims 1-9, 11 and 21 have

been canceled. Claims 10, 12-13, 15-20 have been amended. Claims 10 and 12-20 are pending in

the present application.

Response to Arguments

Applicant's arguments filed January 22, 2006 have been fully considered but are moot in

view of the new round(s) of rejection set forth in the present Office Action.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or
any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and
requirements of this title.

Claims 10, and 12-20 are rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter.

Claim 18:

Claim 18 recites "a computer readable storage medium encoded with control information

causing a computer to perform the operations that increment...decrement...determine..."

The claimed <u>control information</u> is not necessarily <u>computer executable instruction(s)</u>. There is

no structural and functional interrelationship between the control information and the rest of the

computer to permit the control information' functionality to be realized. Claim 18 is, thus, non-statutory.

Additionally, since claim 18 includes a 101 judicial exception, claim 18 must be for a practical application of the judicial exception. As is, claim 18 failed to recite either a physical transformation or produces a useful and tangible result. Thus, claim 18 is also non-statutory for this reason.

Claims 16-17:

Claim 16 applies a computer program (control information) as part of a seemingly patentable apparatus, however, claim 16 in reality seeks patent protection for the computer program as evidenced by claim 18 in the abstract. Computer program per se is neither computer components nor statutory process. Thus, claim 16 is non-statutory.

Additionally, since claim 16 includes a 101 judicial exception, claim 16 must be for a practical application of the judicial exception. As is, claim 16 failed to recite either a physical transformation or produces a useful and tangible result. Thus, claim 16 is also non-statutory for this reason.

Claim 17 is non-statutory for the same reasons discussed above.

Claims 10, 12-15 and 19-20:

Claim 10 applies a computer program (control information) as part of a seemingly

patentable method, however, claim 10 in reality seeks patent protection for the

computer program as evidenced by claim 18 in the abstract. Computer program per se

is neither computer components nor statutory process. Thus, claim 10 is non-statutory.

Claims 12-15 and 19-20 are not statutory for the same reasons discussed above.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making
> and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it
> pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode
> contemplated by the inventor of carrying out his invention.

Claims 10, and 12-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to

comply with the enablement requirement. The claim(s) contains subject matter which was not

described in the specification in such a way as to enable one skilled in the art to which it pertains,

or with which it is most nearly connected, to make and/or use the invention.

For example, the base claim 10 recites "decrement, in response to the first adjusted value

being greater than a second value, the adjusted value by one or **more times** the second value

indicative of the number of output pixels in the scaling cycle". However, applicant's

specification (See Paragraph 0027) only describes decrement the first adjusted value

(CURRENT_PHASE) by the number of output pixels L. L is strictly equal to the number of

output pixels, and it is not decremented by the second value indicative of the number of output

pixels. As set forth in the claim 10, the second value is INDEFNITE because it is <u>a function of</u>

the number of output pixels. At least because of the indefiniteness of the second value, the claim

10 is not enabled. Moreover, the first adjusted value is decremented by the value of L, not two or

more times of the value of L. From Fig. 4 of applicant's specification, Block 326 contains the

recited step of decrementing, however, the current phase is decremented by one times the value

L. The current phase may be decremented by two or more times the value L ONLY by repeating

the other steps (See block 322 of Fig. 4) set forth in the claim 10 or by repeating the step in the

block 324 of Fig. 4 and then block 326 of Fig. 4 which requires the step of decrementing to be

repeated as the step requires "in response to the first adjusted value being greater than a second

value" as set forth in the block 324 of Fig. 4. Applicant's claim invention is thus not enabled

because the essential steps for the scaling of an image are omitted at least for the reasons that

applicant's claim limitation is over-simplified and is flawed at least for the reasons set forth in

above.

Moreover, the claim 10 further recites "the first value indicative of a number of input

pixels in the scaling cycle." However, the block 322 of Fig. 4 discloses the value M equal to the

number of input pixels in the scaling cycle. M is a fixed number, as opposed to a function of a

number of input pixels in the scaling cycle and is not a variable indicative of itself. The claim 10

further recites "the second value indicative of a number of output pixels in the scaling cycle."

However, the block 326 of Fig. 4 discloses the value L equal to the number of output pixels in

the scaling cycle. L is a fixed number, as opposed to a function of a number of output pixels in

the scaling cycle and is not a variable indicative of itself.

Additionally, Claim 10 is rejected under 35 U.S.C. 112, first paragraph, as based on a

disclosure which is not enabling. "scaling an image at an output resolution", "a number of filter

taps are needed to accommodate scaling" is critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). Scaling an image by filtering wherein filtering is a critical and essential element. However, nowhere in the claim 10 recites filtering. See for example Paragraph 0001 and 0019 of the applicant's specification. Although the coefficient set is recited, it is not related to the filtering, for example, the filter phases or filter taps. Moreover, the input resolution and output resolution are recited in the claim 10, it is not clear how they are related to the scaling an image set forth in the preamble of the claim. It is not clear how the input pixels and output pixels are related to the image set forth in the preamble of the claim 10. Nowhere in the body of the claim 10 recites "the image". Finally, a plurality of steps have been described for the method of scaling an image as shown in Fig. 3 and Fig. 4, these steps are not formulated in the method claim set forth in the claim 10. For example, the claim 10 omits the critical and essential element of determining S – "a predetermined amount" set forth in the claim. S is an incremental value determined by the number of output pixels and the number of available filter phases (See block 210 of Fig. 3), and thus cannot be said to be a predetermined amount in the method of scaling an image because the method of scaling an image comprises all of the steps in Figs. 3 and 4 and thus S is not a predetermined amount in a method of scaling an image. The predetermined amount for S is zero, rather than a positive integer, which is produced in the method of scaling an image.

Moreover, the claim 10 recites the claim limitation of "determining an index value to access a coefficient set by right shifting the second adjusted value a predetermined amount". However, the second adjusted value is a positive integer number and it is not the binary

representation of the integer number. Applicant's specification describes right shifting the binary

representation of the current phase (See block 312 of Fig. 4 and Paragraph 0020).

CURRENT_PHASE is an integer number, rather than a binary representation. Thus,

CURRENT_PHASE is not right shifted in the manner as claimed.

The claims 11-15 depend upon the claim 10 and are rejected due to their dependency on

the claim 10. The claims 16-18 are subject to the same rationale of rejection set forth in the claim

10.

The claims 16-20 are subject to the same rationale of rejection set forth in the claim 10.

The claim 19 further recites, *inter alia*, the claim limitation of "scaling each input pixel of

the number of input pixels based on the selected N filter phases to obtain each output pixel of the

number of output pixels". The claimed feature of N filter phases set forth a fixed number of N.

However, the filter phases are not N (See Paragraph 0025), e.g., N = 11 (See Paragraph 0022 and

0024). N is the number of used phases (See paragraph 0022). The FILTER PHASE 4 is selected

and the coefficients of the filter phase 4 are provided for the scaling of the image/pixel (See

paragraph 0024), as opposed to the coefficients of the FILTER PHASE 11 or the selected 11

filter phases as claimed. Moreover, the claimed "selected N filter phases" does not make sense at

all as the selection is related to selecting a filter phase and the associated coefficients used for

scaling.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
subject matter which the applicant regards as his invention.

Claims 10 and 11-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

For example, the base claim 10 recites "incrementing a current phase location within a scaling cycle by **a first value** to obtain **a first adjusted value**...decrementing, in response to **the first adjusted value** being greater than **a second value**, the first adjusted value by one or more times the second variable...to obtain a second adjusted value". The claim limitation of "a first value <u>indicative of</u> a number of input pixels in the scaling cycle" renders "a first adjusted value" indefinite, which again renders "a second adjusted value" indefinite. The first value is **indicative of** a number of input pixels in the scaling cycle and thus is **a function** (indicative of) of the number of input resolution divided by GCD wherein the function provides a variable because such a function is uncertain, rendering the claim 10 indefinite. The claim 10 starts manipulating "a first value" which is – **a function** of the input resolution divided by GCD – <u>indicative of</u> the number of input pixels, resulting in an indefinite number. The claim limitation of "a first adjusted value" is obtained based on "a first value", which again is another variable – as opposed to a definite number –a number that cannot be determined. Moreover, "a second adjusted value" depends upon "a second value indicative of the number of output pixels in the scaling cycle" – **a function** of the output resolution divided by GCD – <u>indicative of</u> the number of output pixels, resulting in an indefinite number. Moreover, it is not clear whether the claim limitation of "a predetermined amount" set forth in line 16 of the claim refers to S wherein S takes either zero value or a positive integer value and thus it is uncertain what is the predetermined amount. Clarification is required.

The claim 10 thus failed to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims 11-15 depend upon the claim 10 and are rejected due to their dependency on the claim 10.

The claim 16 is subject to the same rationale of rejection set forth in the claim 10.

The claim 17 is subject to the same rationale of rejection set forth in the claim 10.

The claim 18 is subject to the same rationale of rejection set forth in the claim 10.

The claim 19 is subject to the same rationale of rejection set forth in the claim 10. Additionally, claim 19 further recites "the selected N **filter phases**" in lines 14-15 of the claim. It cannot be ascertained that the selected N filter phases refer to the 4-th **filter phase** of the N filter phases. Clarification is required.

The claims 20 depend upon the claim 19 and are rejected due to their dependency on the claim 19.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37
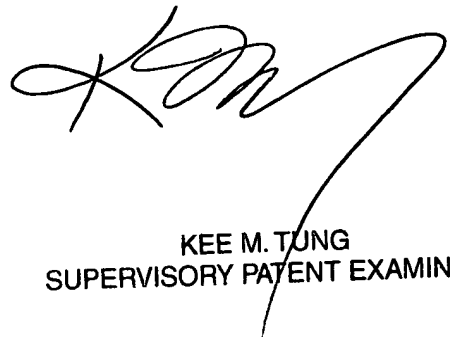
CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jin-Cheng Wang whose telephone number is (571) 272-7665. The examiner can normally be reached on 8:00 - 6:30 (Mon-Thu).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung can be reached on (571) 272-7794. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jcw

KEE M. TUNG
SUPERVISORY PATENT EXAMINER